ECONOMIC COMMENTARY

Alberta Leads the Nation in Productivity Growth

January 04, 2016

Highlights:

Alberta's 2.3% average annual productivity growth between 2009 and 2014 was the highest provincial growth rate and compares favourably to rates achieved in international jurisdictions such as the United States, Ireland and Australia

Alberta Government

According to Statistics Canada, Alberta has the highest labour productivity in the country. In 2014, labour productivity in Alberta's business sector[1] was $72.00 per hour, 44% higher than the Canadian average of $50.10 per hour. Newfoundland and Labrador had the second highest productivity level at $65.30 per hour, followed by Saskatchewan at $57.20. The high productivity levels in these three provinces are mainly the result of their large and highly productive oil and gas extraction sectors.

Business Sector Productivity of Labour - 2014
(Real GDP per Hour Worked, in 2007 constant dollars)

Source: Statistics Canada -- Table 383-0029, Labour productivity and related variables by business sector industry

Between 2009 and 2014, GDP in Alberta's business sector increased by 27.8% or 5.0% per year, the highest 5-year growth since the 5-year period ending in 1997. Over the same period, the total number of hours worked increased by 16.8% or 3.1% per year. As a result, labour productivity, which is calculated by dividing GDP by total hours worked, rose 11.8% over the 5-year time period or 2.3% per year. In other words, just under one-half of the increase in GDP came as a result of increased labour productivity and just over one-half was the result of increased labour input. The average annual productivity increase of 2.3% for the years 2009 to 2014 is a vast improvement over the average rate of 1.5% recorded for the preceding 5-year period (2008 to 2013).

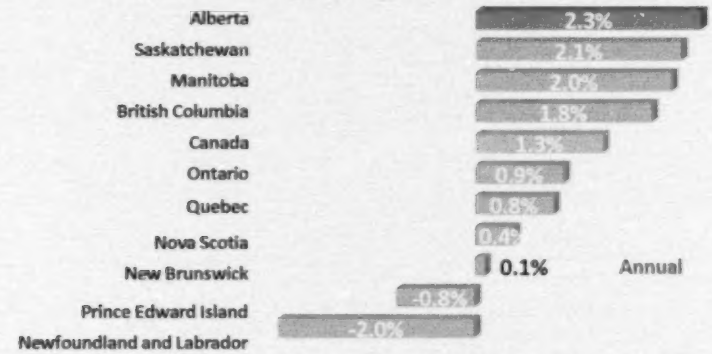
Why is labour productivity important? Labour productivity is the single most important determinant in maintaining and enhancing sustained prosperity for Albertans. Higher productivity growth will alleviate some of Alberta's future labour supply issues arising from an aging work force and decreasing labour force growth, and will also increase Alberta's international competitiveness and thereby secure long-term economic growth. The key drivers of labour productivity include skills and human capital, capital investment, and innovation.

Alberta's 2.3% average annual growth rate in labour productivity was the highest provincial growth rate and was much higher than the Canadian growth rate of 1.3% per year. In 2014, Alberta's productivity

[1] Excludes non-commercial sectors, such as public administration, healthcare and education

grew by 2.6% from 2013, the second highest growth rate that year, surpassed only by British Columbia's 3.0% increase.

Business Sector Labour Productivity Growth Rates
2009 - 2014 (Based on Hours Worked)



Source: Statistics Canada – Table 383-0029, Labour productivity and related variables by business sector industry

To gain a better understanding of productivity you need to understand productivity at the sector level. Different sectors are experiencing different productivity performance, which helps us to better understand the success and challenges being experienced in productivity and where the focus needs to occur. This is why the focus of the remainder of this commentary is on productivity trends in Alberta's largest sectors.

Labour Productivity in Alberta Industries in 2014
(Real GDP per Hour Worked, in 2007 constant dollars)

Source: Statistics Canada – Table 383-0029, Labour productivity and related variables by business sector industry
PSTS: Professional, Scientific and Technical Services

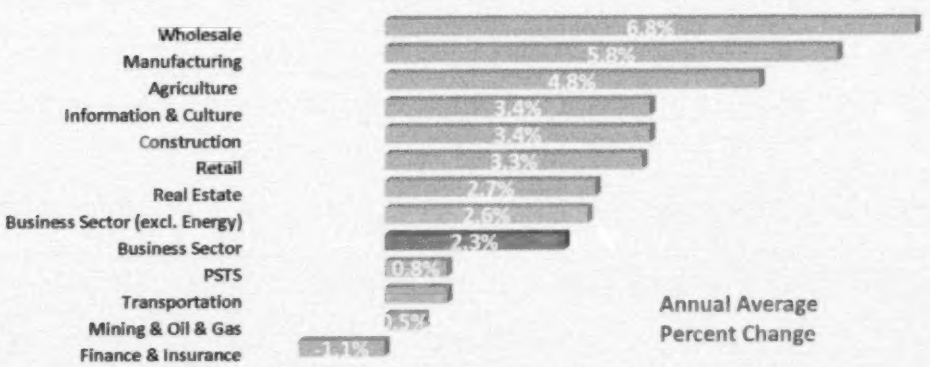
Alberta's high productivity level is in large part the result of its large and capital-intensive oil and gas extraction sector. In 2014, the labour productivity level was $255 per hour in the mining and oil and gas sector, because of very high levels in the oil and gas extraction sub-sector ($441 per hour). Levels in this capital-intensive industry are high as output (or GDP) per worker and per hour worked is very

high in that industry. When excluding the mining and oil and gas sector Alberta's labour productivity level drops to $53.20 per hour, 17% higher than the Canadian average of $45.40. The $53.20 for the business sector excluding energy is much lower than the overall business sector productivity level of $72.00 in Alberta which in turn was 44% higher than the Canadian average. In other words, more than one-half of the 44% difference between Alberta and Canada's business sector productivity levels is the result of Alberta's highly productive oil and gas sector.

Although the mining and oil and gas sector has the highest productivity level, its productivity declined sharply over the 15-year period ending in 2012: productivity in the oil and gas extraction sub-sector declined by nearly two-thirds between 1997 and 2012. There are a number of reasons for this decline. First, Alberta's conventional oil and gas resources were in decline and it took more effort to find and extract each additional barrel or gigajoule. Second, new oil sands projects will have employees on-site before production actually starts raising hours worked without any increase in GDP. Third, high oil prices made high cost, labour and capital intensive oil reservoirs more attractive.

In more recent years, productivity has improved in the mining and oil and gas sector: in 2013 and 2014 this sector's productivity advanced by 4.2% and 3.6%, respectively. The main reasons for this turn-around are that a number of large oil sands projects started producing and that conventional oil production has staged a recovery during the past few years. It is likely that this sector's productivity will continue to improve as more oil sands projects enter the production phase and as oil and gas producers and service companies find new ways to cut costs and improve productivity to deal with a much lower oil and gas price environment. On a five-year basis, productivity increased at an annual average rate of only 0.5% between 2009 and 2014 as the recent strong growth was mostly offset by weakness between 2009 and 2012.

Labour Productivity Growth Rates in Alberta's Industries
2009 - 2014 (Based on Hours)



Sources: Statistics Canada and Alberta Economic Development & Trade
PSTS = Professional, Scientific and Technical Services

Most other sectors had strong productivity growth during the past five years. The wholesale sector had the highest productivity growth with a rate of 6.8% per year, mainly as a result of surging output in oil and gas related wholesale sub-sectors such as machinery and equipment wholesalers. Farm consolidation and capital investment led to a 4.8% per year increase in the agricultural sector. Information and culture (mainly telecommunication services) benefited from heavy investment in telecom equipment by telecom providers, such as cell phone companies, and had productivity growth of 3.4% per year. Productivity in the construction sector also grew by 3.4% per year as weak growth in its largest sector, engineering construction (such as oil and gas projects) was more than offset by very high productivity growth in the residential, non-residential and repair construction sub-sectors.

Alberta's manufacturing sector had very strong productivity growth of 5.8% per year between 2009 and 2014, a rate that was more than double the 2.6% growth rate in Canada's manufacturing sector. High growth was registered in the globally competitive electronics (14.8% per year), plastics and rubber (11.1%), machinery (9.2% per year), wood products (8.8%) and refinery products (7.5%) industries.

In summary, Alberta's productivity level of $72 GDP per hour worked was the highest in the country and 44% higher than the Canadian average. Alberta's productivity growth had been weak historically, mainly because the oil and gas sector had sharply declining productivity during the 15 years prior to 2012. However, productivity growth has improved in recent years because of a pronounced turn-around in the oil and gas sector. Alberta's 2.3% average annual productivity growth between 2009 and 2014 was the highest in the country and compares favourably to rates achieved in international jurisdictions such as the US, Ireland and Australia.

Note: labour productivity and many other economic indicators can be found on the Alberta Economic Dashboard at http://economicdashboard.albertacanada.com/